History 233 History of Science in the Modern Era
TTh 1:00-2:20
Room:

Prof. Cyrus Mody
Humanities 309
x2553
Cyrus.Mody@rice.edu
Office hours: by appointment

Book available at the bookstore:

Andrew Ede and Lesley B. Cormack, *A History of Science in Society: From Philosophy to Utility* (North York, ON: University of Toronto Press, 2012)

Grading:	Participation:	25%
	Homeworks	25%
	Mid-terms:	25%
	Final:	25%

Participation: This is a lecture-based course, but one in which the lectures include significant audience participation. I will ask questions that will, hopefully, lead you toward a fuller appreciation of the choices confronting scientists and natural philosophers at different times in history; and I will spend the first part of most lectures recapping the previous lecture with your assistance. Thus, your active participation in the discussions will be crucial. I will keep a tally for participation. If you attend class, contribute to discussion, and demonstrate a working knowledge of the readings you will get full participation credit.

Homeworks: There will be short homeworks, primarily covering the assigned readings, every couple weeks.

Midterms: There will be two in-class midterm exams, on February 7 and March 21.

Final: There will be a take-home final exam. This will be administered through Owl-Space, due by the end of the exam period. Since it is a take-home, you will be allowed to use the course readings and any notes you have taken.

Note: any student with a documented disability needing academic adjustment or accommodations is requested to speak with me during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact Disabled Student Services in the Allen Center.

Learning outcomes: By the end of this course, you should be able to articulate how science is and has always been a human, social, globally-distributed enterprise with complex connections to politics, religion, technology, commerce, warfare, class, race,

gender, colonialism, and a variety of other facets of human history. While I don't expect you to remember most of the specifics of the course once you graduate, I would like you to (A) be able to relearn this material very quickly if you ever have another occasion to study the history of science; (B) be able to dispense with some common myths about science and scientists; and (C) be able to read about current public debates in which science figures with an eye to the broad points we discuss in this course.

You should also pick up some practical skills during this semester, if you have not done so already. In particular, you will need to know how to listen and take notes, summarize an argument, and present your own thoughts for discussion.

Plagiarism and the Honor Code: Every assignment in this course is covered by Rice's Honor Code. I won't ask you to check off the Honor Code box on your regular homeworks, but you are still required to abide by it. That means that you **must** adhere to standard US academic practice when it comes to originality of work and citation of sources. **Any** time you quote from a source, you must cite that source and you must indicate that you are quoting rather than paraphrasing. Any time you paraphrase a source, you must acknowledge it. If you rely on an idea borrowed from someone else, you should indicate that. I am not a stickler for any particular citation style, but whatever style you choose should be (A) consistent and (B) clear enough that your reader can track down your source and verify it.

Schedule:
Readings are to be read for *the lecture under which they are listed. Be prepared to discuss them on that day.*

Tuesday, January 8: Introduction to class

Thursday, January 10: Greek and Roman natural philosophy

Tuesday, January 15: Post-classical Byzantine, Arab, and Indian contributions
Ede and Cormack 1
Homework #1 out

Thursday, January 17: From the Thomistic synthesis to the Scientific Renaissance
Ede and Cormack 2

Tuesday, January 22: Astronomy and patronage: Tycho, Kepler, and Galileo
Ede and Cormack 3
Homework #1 due
Homework #2 out

Thursday, January 24: Alchemy
Ede and Cormack 4

Tuesday, January 29: Scientific Revolution in Britain: The Royal Society
Homework #2 due

Thursday, January 31: Scientific Revolution in France: Salons and academies
Ede and Cormack 5
Homework #3 out

Tuesday, February 5: Scientific Revolution in the Netherlands: Commercial empires

Thursday, February 7: Midterm 1
Homework #3 due

Tuesday, February 12: The Industrial Revolution and the Age of Wonder
Ede and Cormack 6
Homework #4 out

Thursday, February 14: The French Revolution and the Age of Reason

Tuesday, February 19: Romanticism
Homework #4 due

Thursday, February 21: Natural theology and Darwin's early years

Tuesday, March 5: Evolution and natural selection

Thursday, March 7: Steam engines and telegraph cables
Ede and Cormack 7
Homework #5 out

Tuesday, March 12: Nationalism and early eugenics
Ede and Cormack 8

Thursday, March 14: Pasteur and public health
Homework #5 due

Tuesday, March 19: Education and professionalization

Thursday, March 21: Midterm 2

Tuesday, March 26: Engineering, invention, and corporate research
Ede and Cormack 9

Tuesday, April 2: World War One and its aftermath
Ede and Cormack 10
Homework #6 out

Thursday, April 4: Late-colonial and post-colonial science

Tuesday, April 9: Science under National Socialism
Homework #6 due

Thursday, April 11: World War Two
Ede and Cormack 11
Homework #7 out

Tuesday, April 16: The Cold War and Big Science
Ede and Cormack 12

Thursday, April 18: Science since the ‘70s
Ede and Cormack 13
Homework #7 due